

FINAL Summary  
Steller Sea Lion Recovery Team Meeting  
Alaska Fisheries Science Center, Seattle, WA  
7-8 August 2002

Bob Small, Chair of the Steller Sea Lion Recovery Team (SSLRT or RT), opened the meeting at 08:30 on August 7. Minutes from the March meeting were reviewed and approved without change prior to the meeting. There was no quorum, as only thirteen RT members were in attendance (Table 1). The Chair asked RT members to provide a quick and definitive response to suggested meeting dates in the future. The Chair also suggested that if some members decide to resign due to ongoing schedule conflicts, the RT might wish to review its quorum standards. Other RT members suggested that members who withdraw should be replaced, and that current quorum standards should remain unchanged. At least three members (Calkins, Byrd, and Williams) have indicated that they will be unable to attend the next meeting tentatively scheduled for November 6-8, 2002.

SSL Research Budget Status Report

Bob Small, Alaska Department of Fish and Game

The FY2003 allocation for SSL research has been reduced from its current level of approximately \$20 million to \$5 million in the Senate budget committee mark. The research budget had already been reduced to a lesser degree in the President's budget request, but a reduction of the proposed magnitude would return the budget to its level of two years ago. RT members noted that the number of funded research projects has increased during that period and the purchasing power of that research funding has eroded. Although research expenses have been pre-funded where possible (e.g., post-doctoral salaries and some vessel time), the proposed reduction would require the termination of some current projects. The RT discussed the merits of sending a letter expressing its concern to the NMFS Regional Director (RD). While many members were supportive, some members cautioned the RT to avoid doing anything that could negatively affect other line item allocations. The Chair will circulate any draft letter to the entire RT for review and comment before transmitting it to the RD.

ADF&G Steller Sea Lion Program Field Work/Samples Collected 2002

Tom Gelatt, Alaska Department of Fish and Game (ADF&G)

ADF&G research activities this spring have included the capture of 15 juvenile (9-10 mo.) animals in the Central Aleutians, 29 juveniles in Prince William Sound (20 = 11 mo.; 9 = 23 mo.), and 21 juveniles in Frederick Sound (17 = 12 mo.; 4 = 24 mo.). A brand resighting survey was conducted in Southeast Alaska during June and 317 additional pups were branded throughout the region (141 at the Forrester Island complex, 126 at the White Sisters Islands, and 50 at Graves Rock). Eighty pups branded at Lowrie were also tagged to help quantify tag loss. ADF&G collaborated with NMFS/NMML to conduct a medium format aerial survey of haulouts and rookeries in Alaska during June and July. Two juvenile SSL were collected using underwater capture techniques at Adak Island and tagged with location- and depth-recording

satellite tags. At-sea trip length for these two animals has averaged about 11 days to date; one animal traveled along the Aleutians while the other journeyed into the central Bering Sea. Activities planned for the late summer and fall include an August brand resighting survey in Southeast Alaska to observe new individuals and to document movement of individuals from the prior survey, closing the field camp on Lowrie Island, and the capture of additional juvenile SSL in Prince William Sound (Objective: 10 young of the year, 20 1-2 year old) and Frederick Sound (Objective: 20 young of the year, 10 >1 year old).

#### NMFS Steller Sea Lion Research in Alaska, May-June 2002

Tom Loughlin, National Marine Fisheries Service

NMFS activities have included brand resighting surveys in late May that extended from the Eastern Aleutian Islands through Prince William Sound, and maintenance of field camps for brand resightings and behavioral observations for about two months each at Ugamak, Marmot, and Fish islands. Aerial surveys were conducted during June using both 35 mm and medium format photography. NMML conducted a 35 mm survey from Cape St. Elias to Attu Island, and SWFSC conducted a medium format survey from Forrester to Seguam Island. Replicate surveys by both techniques were completed from the central GOA to the central Aleutian Islands. Drive counts of pups were down at nearly all rookeries throughout the Aleutian Islands whereas counts increased and decreased at about the same number of rookeries in the Gulf of Alaska. Medium format survey counts appear to be comparable to drive counts; background type appears to be important for good medium format counts. The medium format technique has the potential to (1) replace the two current (pup and non-pup) surveys with a single survey, (2) provide an index of juvenile recruitment, and (3) provide a condition or growth index through measurements of size and subsequent estimates of mass.

Counts, morphometrics, and branding of pups were conducted in Alaska, Oregon, and California. The F/V Pacific Star surveyed from Dutch Harbor to Attu Island, and deployed three SMRU (Sea Mammal Research Unit) PTTs. The F/V Tiglax surveyed from Dutch Harbor to Homer, branding 88 animals at Marmot Island and 105 animals at Sugarloaf Island. Pup counts were conducted at Rogue Reef and Orford Reef in Oregon, and 140 pups were branded at St. George Reef in California.

NMFS researchers have one manuscript in press presenting an analysis of immature SSL diving behavior. Loughlin also provided demonstrations for RT members of three websites of interest. These included an internal NMML website that displays near real-time location data for satellite tags applied by NMFS researchers; public access to this site should be available by October. The second site was maintained by D. Goodman to display the rookery count information he will be using in his ongoing PVA model. The third site was maintained by the SMRU and also displays satellite tag information.

### ASLC Research Activities

Don Calkins, Alaska Sea Life Center (ASLC)

The ASLC is maintaining its involvement with studies in Russia, and is currently hosting a visiting Russian scientist. The feeding regime study that was started two years ago at the ASLC is scheduled to conclude in November and results are expected to be available within the next year. Studies using video cameras on Chiswell Island are continuing using six units, and there are plans to expand to sites on the island that are occupied by SSL during the winter. ASLC researchers hope to obtain comparable data from a similar study that is being conducted on Korlova Cape in Russia; the prevalence of branded animals in Russia is resulting in frequent brand resightings at that location. Researchers are close to finishing a transect survey of killer whale prevalence along the Kamchatka Peninsula; goals of this study are to determine the numbers of killer whales present, identify their behavior, and determine the number of individuals involved in predation on SSL (i.e., estimate the predation rate). Cooperative work with ADF&G (vitamin A studies and fecal hormone studies) and NMFS (brand resighting) is continuing. Studies that would capture and hold juvenile SSL in the ASLC for short periods, apply satellite tags, and then release them into the wild are currently on hold awaiting permits from NMFS/OPR. Russian studies (through Calkins' consulting firm) also include maintenance of 5 field camps, remotely-operated video cameras, branding at 4 sites, collection of genetic and blood samples for NMFS, and collection of samples that will be examined for the presence of contaminants by Japanese researchers. Researchers also hope to determine the level and source of incidental SSL take in the Russian Bering Sea by establishing an observer program and through brand resights.

### NMFS Permit Process, EA, and NEPA

Tammy Adams, National Marine Fisheries Service/Office of Protected Resources

The NMFS Permit office strives to ensure that current research is conducted consistent with applicable law. As a result of new funding and an increase in the number of SSL research permits requested, the Permit Office determined that an Environmental Assessment (EA) would be required to comply with the requirements of the National Environmental Policy Act (NEPA). The public comment period for the draft EA closed on July 29. Comments by the Humane Society of the US and other non-governmental organizations (NGOs) generally suggested that the EA was inadequate to consider all of the potential effects of the proposed research and questioned NMFS' finding of no significant impact. The NGOs cited a lack of overall coordination and the lack of a good monitoring plan. They believed that some of the proposed activities do not meet NMFS' basic permit issuance criteria; e.g., projects must be humane, ultimately benefit the species, fill a research need, clearly linked to the recovery plan, etc. The public comments are still under review and no final decisions have been reached. Comments involving points of clarification have been referred to the applicants. To date only one permit request has been returned to the applicant; that request would have collected only two samples and was therefore deemed to not constitute bona fide research. Adams hoped that a final decision on at least some of the applications (those with few negative comments) could be completed by the end of August. The comments regarding the lack of overall coordination must

still be addressed, and OPR must still complete Section 7 consultations and a Biological Opinion before any permits can be issued.

Questions from the RT addressed the following:

- When a NGO objects to a particular procedure or technique (e.g., hot branding), the Permit Office generally evaluates this complaint in the context of all other comments and considers the experience of the complainant.
- Some RT members were concerned that future funding might be jeopardized because there were no results to show from current funding due to the delay in obtaining permits. Adams maintained that the permit review should have been completed before the decision to fund these programs. Projects were generally funded with no knowledge of what the permit impacts would be. Some RT members felt that precedent was more at issue than the current permits, fearing that future research funding could be jeopardized if NMFS becomes locked into a procedural process that prevents field research.
- OPR has not received any permit requests from the North Pacific Universities Marine Mammal Research Consortium (NPUMMRC), and Adams was uncertain whether they plan any new activities in US waters that require permits.
- The OPR has considerable flexibility in the permits it grants. It may grant some or all of the permits requested, or it may grant only portions of those requested. However, a piecemeal approach does create a bigger workload.
- RT members believe the question of research coordination involves several layers, including the stand-alone value of each individual project as well as the overall coordination of work. Current coordination efforts have involved determining the projects that will be conducted with available funding, but the type of coordination the OPR seems to seek is at the level of day-to-day scheduling in the field. Some RT members believed that the informal day-to-day coordination occurring now is simply not apparent to those outside the research group. More formal coordination might be useful for new researchers, but most felt that seasoned researchers have generally learned whom they can work with. Others maintained they had never encountered an unexpected research group in the field, or that day-to-day coordination of activities is difficult when the availability of permits is so uncertain. There was no agreement among RT members whether a more formal day-to-day coordinator was needed, or who that coordinator would be.

Some RT members recommended that a letter be written to the Permit Office suggesting that a decision on permits be made as soon as possible, recognizing the need to comply with NEPA but also recognizing that some research projects will be delayed another year unless permits are approved soon. Other members echoed concerns raised in public comments that not all of the proposed work was thoroughly considered, cumulative effects of all research activities have not been evaluated, and additional review is needed. Still others questioned the utility of a letter, stating that a letter merely requires a response that generates additional work for the OPR. Given the disagreement over the utility of a letter and its content, the Chair suggested that no letter be written and the RT agreed.

## Recovery Plan Revision: Review of Background Sections

The Chair thanked L. Lowry, T. Loughlin, and all others who worked on early drafts of the background sections. Small suggested that the RT first make general comments on the structure of the proposed draft, and then proceed with a section-by-section review with comments on content. Those with content comments on Sections III, V and VI were asked to provide a written suggested alternative to Loughlin by Monday, August 26; those comments should be in plain text (no formatted characters) with the full citation of any new references provided. Loughlin will distribute those comments as necessary to the authors of the relevant subsections. Revised text (using strikeout format) will be distributed by September 10, and RT comments should be sent to Small by October 28. Several groups will be working on new sections; deadlines for those drafts are listed in the appendix. Comments on both new and revised sections (using strikeout format) must be sent to Small by October 28; compiled comments will be available to the RT prior to the scheduled November 6-8 meeting.

## Revision of the Step-Down Outline

The RT reviewed its draft of 22 March and discussed whether any changes were necessary. Although there was some confusion over what types of activity would be included in Research and Monitoring #8, there were no objections to maintaining the categories shown. In the Management section, #3 in the 22 March draft (“Ensure adequate prey availability in feeding areas”) was deemed to be a subset of #1 (“Protect Critical Habitat and areas of special biological concern”). The step-down outline was approved with that single revision (Table 2).

The RT then attempted to take one item in the draft outline (Research and Management #1) and develop the next lower level of steps in the outline. The stepdown outline in the 1992 RP was used as a model. The RT decided that steps listed in the 1992 outline that have been completed should be excluded from the revised outline, but that some reference to these completed tasks should be made in the narrative. The revised outline should reflect steps that need to be taken in the future. Ultimately this task proved to be too cumbersome to complete as a group, and the Chair asked individuals or small groups of RT members to work independently. RT members were assigned one of the steps in the current outline and asked to draft all pertinent substeps (Table 2). Those drafts should be submitted to Small by August 19; he will compile the drafts and send the complete version to the RT for review by August 23. Comments on the compiled draft should be submitted to Small by August 30. The revised outline will be distributed by September 10, and the subgroups can begin drafting narrative to accompany the stepdown outline. Those drafts will be due to Small by October 10 for distribution and review by the RT.

## Overview of NMFS Listing Criteria Dialogue

Susan Pultz, National Marine Fisheries Service

There have been several small group meetings to discuss how to make listing criteria more predictable and consistent. No consistent policies have been suggested to date, and the process

has not progressed enough to identify a quantitative threshold. That threshold would probably change for different species or groups of species, and much depends on the threats to each individual species. Listing criteria must consider whether current threats are being addressed, or whether there are impending threats that should be preempted. There has been some discussion but no consensus on how listing criteria relate to delisting. While RTs will want to be certain that a species has recovered before they delist it, and they will also want to be certain the species is in jeopardy before they list it. There has been some discussion of developing overarching criteria (e.g., x% of extinction in y years) but there is no consensus on the utility of such an approach or on what criteria would be selected. Draft recovery planning guidelines are due to be released to the RDs soon for comment; Pultz expects no substantial changes to that draft and expects that it could be shared with RTs in the near future.

Members of the RT asked whether a synopsis of the specific listing/delisting criteria (either a population number or a trend) for all species had ever been prepared. Pultz was not aware of any such compilation, but noted that there have been comparisons of the criteria used in different forums (i.e., CITES, IUCN, etc.). A number of groups are currently examining listing criteria, including the American Fisheries Society, and Pultz offered to make available the materials she has from these groups.

#### Status of Population Viability Analyses – Recovery Criteria Committee Bob Small, Alaska Department of Fish and Game

The committee held a preliminary teleconference to review the basic parameters in PVA analyses and other issues related to recovery criteria, followed by a second teleconference at the end of May with the modelers. The committee made certain that all available empirical data was accessible. The modelers have been working since that time and each provided a brief written report describing their progress to date. A. York is updating her earlier model with current data and is attempting to make it more spatially explicit. D. Goodman is preparing a model that will allow simulations at the scale of individual rookeries. A. Winship provided a report that described his approach and how he sees the model working. Winship is modeling both the eastern and western populations, while York and Goodman are considering only the western population at this time. Small expects each to prepare a draft model using the available data and to submit those drafts for review. If the modelers require additional input, the committee may decide that a workshop is necessary. Small will keep the RT informed of developments.

RT members asked why all 55 rookeries were being modeled separately. The approach has been taken because the committee and modelers believe that it will make the behavior of the model more realistic and understandable. Such a model will allow testing of scenarios (like catastrophes) at a finer level of detail. The committee hopes that these will be tools that can help the RT set recovery criteria or develop management strategies. Different scenarios can be tested to determine their relative impact on SSL population dynamics.

### Major Topics for the November Meeting

New drafts of sections III, IV, V, and VI will have been distributed prior to that meeting and RT comments should be compiled for review. A draft of the expanded stepdown outline and narrative should also be available for comment, as will first results of the PVA models. The RT must still develop a recovery strategy for both the western and eastern populations to be included in sections V and VI, respectively. Although initial plans anticipated a two-day meeting, the Chair asked RT members to make three days available (November 6-8). The Chair estimated that at least two additional meetings beyond November would be needed to complete the initial draft for both populations. The target date for completion of the revised RPs is mid-2003.

This meeting closed at 16:25 on August 8.

Table 1. Attendance at the meeting of the Steller Sea Lion Recovery Team held August 7-8, 2002 at the Alaska Fisheries Science Center, Seattle, Washington.

	Tammy Adams	National Marine Fisheries Service, OPR
	Robyn Angliss	National Marine Fisheries Service
~	Shannon Atkinson	Alaska Sea Life Center
~	Linda Behnken	Alaska Longline Fishermen's Association
*	Vernon Byrd	U.S. Fish & Wildlife Service
*	Don Calkins	Alaska Sea Life Center
	Shane Capron	National Marine Fisheries Service, OPR
	Kathryn Chumbley	National Marine Fisheries Service
†	Al Didier	Pacific States Marine Fisheries Commission
	Tom Eagle	National Marine Fisheries Service
*	Doug Eggers	Alaska Department of Fish and Game
	Brian Fadely	National Marine Fisheries Service
*	Dave Fraser	F/V Muir Milach
*	Lowell Fritz	National Marine Fisheries Service
*	Tom Gelatt	Alaska Department of Fish and Game
~	Dave Hanson	Pacific States Marine Fisheries Commission
*	Lianna Jack	Alaska Sea Otter and Steller Sea Lion Commission
	Michelle Lander	National Marine Fisheries Service
*	Tom Loughlin	National Marine Fisheries Service
	Lloyd Lowry	US Marine Mammal Commission
*	Donna Parker	F/V Arctic Storm
*	Ken Pitcher	Alaska Department of Fish and Game
	Susan Pultz	National Marine Fisheries Service
	John Sease	National Marine Fisheries Service
~	Robin Samuelson	Member, NPFMC
**	Bob Small	Alaska Department of Fish and Game
~	Alan Springer	University of Alaska, Fairbanks
*	Ken Stump	
~	Andrew Trites	University of British Columbia & North Pacific Universities Marine Mammal Research Consortium
*	Terrie Williams	University of California, Santa Cruz
~	Kate Wynne	University of Alaska, Kodiak
*	Steller Sea Lion Recovery Team Member	
~	Steller Sea Lion Recovery Team Member, absent	
**	Chair, Steller Sea Lion Recovery Team	
†	Rapporteur	

Table 2. Draft step-down outline as edited by the SSLRT at its meeting on August 7-8 in Seattle, WA. RT members assigned to draft the next lower levels of the outline are listed at each step.

Research and Monitoring

- |   |                         |
|---|-------------------------|
| 1. Identify habitat requirements  | Small, Byrd,<br>Behnken |
| 2. Identify population(s) structure                                     | Small, Gelatt           |
| 3. Monitor population(s) demography and distribution                    | Stump, Pitcher          |
| 4. Monitor health and condition   | Atkinson                |
| 5. Determine cause and magnitude of mortality                           | Stump, Jack             |
| 6. Investigate foraging ecology and factors affecting energetics of SSL | Williams, Trites        |
| 7. Investigate prey availability  | Eggers, Wynne           |
| 8. Investigate ecosystem  | Springer, Trites        |

Management

- |   |                 |
|---|-----------------|
| 1. Protect Critical Habitat and areas of special biological concern<br>Ensure adequate prey availability in feeding areas | Parker          |
| 2. Minimize “take” (to include disturbance and harassment)  | Jack            |
| 3. Implement Section 119 of the MMPA  | Jack            |
| 4. ESA administration (administer the recovery program)   | Capron          |
| 5. International issues   | Hanson, Calkins |
| 6. Enforcement  | Fraser          |
| 7. Education and information programs   | Wynne           |

## **STELLER SEA LION RECOVERY TEAM**

Draft Meeting Agenda  
7-8 August 2002  
Alaska Fisheries Science Center  
Seattle, Washington

### Wednesday, 7 August

#### 8:30 am

1. Review and approval of agenda
2. Housekeeping: Meeting attendance & maintaining quorum, other?

#### 9:00 am

3. Reduction in federal funding (FY03) for SSL research
4. Overview of recent NMFS and ADF&G research – Loughlin & Gelatt
- 4A. Permit Review Process -- Adams

#### 10:30 am

5. Recovery Plan revision: Review of background sections

### 12:00 pm – Lunch Break

#### 1:00 pm

6. Continue review of background sections
7. Recovery Plan revision: Develop recovery strategy

### Thursday, 8 August

#### 8:30 am

8. Continue development of recovery strategy, tasks and assignments

### 12:00 pm – Lunch Break

#### 1:00 pm

9. Recovery Criteria
  - Overview of NMFS listing criteria dialogue – Susan Pultz
  - Status of Population Viability Analyses – Recovery Criteria committee
  - Future progress on development of recovery criteria

#### 4:00 pm

10. Determine major topics for November meeting, possible dates for subsequent meeting; adjourn

## Appendix.

The following section lists RT comments on the drafts discussed on August 7. Page and paragraph (§) numbering refer to those drafts, which had been distributed in late June. Paragraphs are numbered as complete paragraphs from the top of the page; information in incomplete paragraphs at the top of a page is designated as following (ff) from the last paragraph of the preceding page. The name(s) of the RT member(s) or others who may provide written alternatives are shown in brackets [] following many of the comments.

### General Comments

- Sections V and VI differ structurally. Section V will be modified to include a general population summary similar to that found in Section VI [Loughlin, Sease]
- Some RT members questioned how factors that threaten SSL would be linked to the recovery strategy; the addition of an evaluation at the ends of Sections V and VI was suggested. Some statements of assessment are already contained in these sections, and a summary subsection might make these easier to grasp.
- Some members asked whether information developed in the draft National Academy of Sciences report could be available for inclusion in the background section. Sources indicate that the draft information will not be available.

### Section III Comments

- P2-3 – Remember to revisit this section if information from current radio tagging studies (discussed in more detail in Sections V and VI) changes the content significantly.
- P2 §1 – Update the last sentence to reflect the fact that the largest SSL rookeries are currently located in the eastern population’s range.
- P3-4 – Subsection III.C deals with habitat characteristics while Subsection III.G deals with feeding ecology. It might improve the flow if these two subsections were located in closer proximity. Alternatively, retitle Subsection III.C to “Rookery Habitat” and move most of P4 §3 to Subsection III.G.
- P4 §3 – Remove or qualify the reference to Kajimura and Loughlin (1988) stating that SSL are commonly seen near the 200 m depth contour in the GOA [Fraser].
- P4-6 – Subsection III.D would benefit from the addition of verbal and graphic information on the distribution of SSL haplotypes [Bickham].
- P5 §2 – Clarify: “... eastern stock that includes all animals born on rookeries east of Cape Suckling ...”
- P5 §4 – Identify the variations in skull morphology that suggest morphologically diverging groups.
- P6. – Retitle Subsection III.E to “Metapopulation Structure”, leaving the concepts of ‘dispersal’ to be covered in Subsection III.F.3 [Small].

- P7 ¶4 – This paragraph currently reads like a research recommendation. It should be reworded to indicate ‘the following is unknown’ rather than ‘the following must be learned’. Additional information on the potential rate of growth ( $R_{\max}$ ) would illustrate that even if conditions are favorable from this point forward it will take a long time for the population to recover [Loughlin].
- P7 – Include some mention of the link between food and reproduction in otariids [Stump].
- P8 – Make sure Subsection III.F.2 is updated if new research changes the content substantially.
- P9-17 –Subsection III.G (Feeding Ecology) covers information from stomach samples but makes no mention of information developed from fatty acid studies. Additional information could be provided [Gelatt].
- P10 ¶4 – The statements regarding diet and the ecosystem are not scientifically valid since they are based on few samples collected over several years [Stump].
- P11 ¶2 – The size of foods consumed by SSL is also mentioned in Sections V and VI. Delete the last sentence of this paragraph and replace it with a reference to further discussion in these sections.
- P14 – Define how the term ‘offshore’ is being used. Does it characterize a distance from the rookery or a distance from the nearest point of land? Make certain that the term is used consistently when comparing different studies.
- P14 – Some RT members objected to the use of averages for trips, fearing that an average can be misleading if the variability is high. They suggested that the modal value or some other sense of the variability would be more useful. A table summarizing all available dive data was suggested, but others questioned how such a table would contribute to the development of recovery criteria. RT members agreed that the RP needs to describe generally what SSL can do, and the range and variability associated with their activity. In addition, a summary of the Russ Andrews TDR findings will be included [Small, Loughlin].
- P14 – If there is interest in noting data gaps in this section, mention that there is little information about where post weaning (older juvenile) SSL and female SSL with pups forage during the winter. There is a cost associated with collection of these data, however, since there is some risk of female mortality during captures at this time.
- P15 ¶3 – Add: “Weight loss was thought to be principally due to the lower energetic value of pollock compared to herring, the higher assimilation cost, and a failure ...”

#### **Section IV Comments**

- The RT had an extended discussion on the purpose of this section. Some had expected a review of fishery management and viewed the current text as a history of biological opinions, consultations, and litigation. They believed this text often

repeated the plaintiffs' case. Others believed this section should describe in general all of the things that have been done to affect SSL over the past decade (including subsistence harvests and reductions of disturbance) and describe the underlying rationale rather than listing actions. Most seemed to believe that the section should describe the factors that can be managed and the actions that have been taken to date. It should describe the evolution of thought on how SSL should be protected, regardless of the mechanism used (consultation, ER, etc.). Capron agreed to revise this section, and Fritz and Springer will give his work an initial review. A distribution draft will be sent to Small by September 6 for distribution to the RT on September 10.

## **Section V Comments**

- P1 ¶1 – The first paragraph should provide more of an overview of how assessments are done. It should describe which sites have been selected as trend sites and why [Small, Sease]
- P3 – The 1992 RP contains a statement that counts prior to the 1970s cannot be used as a benchmark to measure the overall decline, yet this section seems to refer to a decline that has taken place since the 1960s. The status of early survey data should be clarified [Small, Pitcher]
- P6-7 – By the time this document is released there will be at least three new manuscripts on predation that will have been published. Subsection V.B.2 should be flagged for later revision prior to final publication.
- P8 ¶2 – RT members noted that the tribal governments on St. Paul and St. George have been monitoring tribal harvest independently of ADF&G (Division of Subsistence) for several years, and that some believe their estimates are better than the survey estimates used in this document. The RT recommended that table V.B.3-1 be updated to include the 2 comparable years of tribal harvest data.
- P13-15 – Several RT members were uncertain how to evaluate the information contained in Subsection V.B.6. While in some cases the cited levels appear high, there are no standards or terms of reference by which they can be judged. While they may suggest a conservation or environmental concern, it is unclear whether they can be related to the decline of SSL.
- P14 ¶2, P15 ¶1 – Both of these paragraphs deal with organochlorine contamination and they should either be more closely associated or combined.
- P14 ¶2 – The two clauses in the last sentence appear contradictory.
- P16 ¶1-2 – Climatic conditions can be highly variable within a regime that is represented by average values. Some acknowledgement should be given to interannual variability [Small].
- P17 – The existence of several large year classes prior to the 1970s should be noted [Fritz].
- P17 ¶1 – Anderson and Piatt (1999) used shrimp trawl data that was not standardized and not comparable to groundfish trawls. Data from groundfish

trawls suggested a different species composition. It may not be appropriate to emphasize this reference so heavily [Stump].

- P18 ¶2-3, P18 ¶1 – The information provided from the California current is confusing and appears in some instances to be contradictory. Much of it may be more relevant to salmonid survival than to otariids. The presentation also seems too simplistic, ignoring the involvement of other factors like overfishing [Fritz].
- P19-26 – The RT had an extended discussion of the tone taken in Subsection V.B.8, which several members viewed as more opinionated than other sections of the document. Some saw this bias in the choice of words (e.g., P19 ¶1 – the use of ‘strongly suggest’ rather than just ‘suggest’). Others believed that the presentation of competing theories was not always balanced (e.g., the presentation of pollock as a low-quality food source (P20-21) devotes as much space to discounting the theory as it does to its presentation, and labeling it a ‘junk food hypothesis’ further tends to minimize it. The theory of localized depletion (P21-22), however, is presented without reference to recent work in Kodiak that suggests it may not be applicable to migratory species like pollock.) Others defended characterizations in the subsection and encouraged the RT to think broadly about all fishery impacts, including shrimp, rockfish, atka mackerel, herring, and salmon. The Chair encouraged Stump, Parker, and Fraser to work together on a mutually acceptable balanced presentation; if that is not possible Small and Loughlin will endeavor to present both views.
- P19-26 – the ‘cascade’ hypothesis has been given insufficient attention in this section. Its impact could be comparable to that of recent competition, so a more extensive treatment is justified [Pitcher, Springer].
- P26 ¶1 – Subsection V.B.9 lacks a discussion of the effect of fishing gear and noise on the prey field [Stump].
- P26 ¶2 – The RT discussed how time and location are critical to the impacts of disturbance; e.g., rookeries in the spring and summer. Some believed that greater recognition should be given to the fact that in some cases researchers themselves cause mortality. The cumulative impacts of many research practices are unknown (e.g., the survival impacts of sampling activities on younger pups during protracted pupping seasons). Those impacts are of particular concern in declining populations where any source of mortality could be cumulative. Others believed that research has been conducted in areas like the Pribilof Islands for over 50 years with no demonstrable impact, and that repeated research disturbance has not driven SSL from sites they commonly frequent. They believed that proper precautions have been instituted (e.g., alternate site visits), and that considerable valuable information is collected at an acceptable level of risk. [Pitcher]
- P26-27 – Pitcher provided a 4-page revision of Subsection V.B.10 that lead the RT into an extended discussion on how the threats identified in Section V.B would be evaluated. Several members believed that a new section was necessary to evaluate whether the demographic changes observed in SSL are within the range of possible impacts posed by these threats. They suggested the analysis

should put the threats into context, and identify those that are most plausible or most likely to have impacts at critical places and times. Some suggested dividing historical trends into two or more time periods, and rating the impacts of each threat relative to the time period. Others suggested estimating a range of mortality that could be produced by each of the threats to give the RT a better sense of the potential impact RP management of these threats could have. Many recognized that an evaluation of the threats and their potential impacts is an essential step in developing a recovery strategy. Williams, Pitcher, and Byrd were asked to draft a new threat evaluation section by October 10 for distribution and review.

### **Section VI Comments**

NOTE: The original 24 March 2002 draft of Subsection VI.A was replaced during this meeting by a draft prepared by Pitcher dated 31 May 2002. Page and paragraph references in these comments refer to the 31 May draft for Subsection VI.A and to the 24 March draft for Subsection VI.B.

### **Section VI.A Comments**

- P3 ¶1 – Early population statistics will be cited to corroborate the assertions made in this paragraph [Pitcher].
- P5 ¶1-2 – The numbers cited in text for Cape Mendocino and St. George Reef do not appear to correspond to the numbers shown in Tables VI.A.3-2 and VI.A.3-3 and need to be checked [Pitcher].
- P6 ¶1 – The final paragraph of this section should provide some sense of the increase in the size of the eastern population over time. It should note that the largest population of SSL in the US is now located in the east, and that it now includes the largest breeding rookeries. This change represents a dramatic shift in reproductive potential for the species [Pitcher].

### **Section VI.B Comments**

- RT members noted that there is not much information available regarding threats faced by the eastern population. Some RT members were concerned that there might be a tendency to gloss over potential threats to this population, particularly in the southern extreme of its range, merely because the overall population size is increasing. Pitcher will contact the Department of Fisheries and Oceans (Canada) and recovery centers in California to determine if additional threats can be documented.
- P7-11 – RT members questioned whether comparisons could be made between the eastern and western populations and inferences drawn for some of the threats noted in this section; e.g., disease infection rates, levels of toxic substances. Others noted that diseases could be transmitted between populations by animals commingling at sea, and that the RT has no standards by which to evaluate levels of toxic substances in SSL.

- P10 ¶2 – The reference to trawl fisheries in Subsection VI.B.8 is misplaced. Trawling was not banned in Southeast Alaska until the 1990s, and still occurs in other segments of the eastern population range. This section should reference the availability of fish and not the management approach.
- The RT recognized that a new threat evaluation section similar to that planned for the western population should also be prepared for the eastern population. The Chair suggested that preparation of this section be deferred until those working on the western population section have prepared a draft that can be used as a model by RT members more familiar with the eastern population (e.g., Eggers, Trites, and others).